Decision Regarding the Assessment of Engineering, Manufacturing and Technology Study Programme Group

Estonian University of Life Sciences

08/04/2019

The Quality Assessment Council for Higher Education of the Estonian Quality Agency for Higher and Vocational Education decided to approve the report by the Assessment Committee and to conduct the next quality assessment of first and second cycles of higher education in the Engineering, Manufacturing and Technology study programme group at Estonian University of Life Sciences in three years

On the basis of subsection 10 (4) of the Universities Act, point 3.7.3 of the Statutes of the Estonian Quality Agency for Higher Education and VET (hereinafter referred to as 'EKKA') and point 41.3 of the document, 'Quality Assessment of Study Programme Groups in the First and Second Cycles of Higher Education', authorised in point 3.7.1 of the above-mentioned EKKA Statutes; the Quality Assessment Council for Higher Education of EKKA (hereinafter referred to as 'the Council') affirms the following: :

1. On 18.06.2015 the Council decided to conduct the next assessment of first and second cycles of higher education in the Engineering, Manufacturing and Technology study programme group at Estonian University of Life Sciences in four years.

2. On 3.05.2018 Estonian University of Life Sciences and EKKA agreed upon a time frame to conduct the quality assessment of the Engineering, Manufacturing and Technology study programme group.

3. The Director of EKKA, by her order of 17.12.2018, approved the following membership of the quality assessment committee for the Engineering, Manufacturing and Technology study programme group at Estonian University of Life Sciences (hereinafter referred to as 'the Committee'):

Mark Richardson (chair)	Professor Emeritus, University College Dublin (Ireland)
Petri Kärenlampi	Professor, University of Eastern Finland (Finland)
Frank Monahan	Professor, University College Dublin (Ireland)
Jan-Eric Stahl	Professor, Lund University (Sweden)
Andrus Tasa	Partner and CEO, Tartu Biotechnology Park (Estonia)
Rebecka Lindvall	Student, Lund University (Sweden)

4. Estonian University of Life Sciences submitted the following programmes for assessment under the Engineering, Manufacturing and Technology study programme group:

Technotronics (Prof HE)
Wood Processing Technology (Prof HE)
Engineering (BSc)
Food Technology (BSc)
Food Technology (MSc)
Energy Application Engineering (MSc)
Ergonomics (MSc)
Production Engineering (MSc)

5. Estonian University of Life Sciences submitted a self-evaluation report to EKKA on 12.11.2018 and the assessment coordinator forwarded it to the Committee on 11.12.2018.

6. An assessment visit was made to Estonian University of Life Sciences 12-13.02.2019.

7. The Committee sent its draft assessment report to EKKA on 12.03.2019, EKKA forwarded it to Estonian University of Life Sciences for its comments on 15.03.2019, and the University delivered its response on 25.03.2019.

8. The Committee submitted its final assessment report to EKKA on 4.04.2019. That assessment report is an integral part of the decision. The assessment report is available on EKKA website.

9. The Secretary of the Council forwarded the Committee's final assessment report along with the University's self-evaluation report to the Council members on 4.04.2019.

10. The Council with 10 members present discussed these received documents in its session on 8.04.2019 and, based on the assessment report, decided to point out the following strengths, areas for improvement, and recommendations regarding the Engineering, Manufacturing and Technology study programme group at Estonian University of Life Sciences.

The Committee listed the following overarching areas of improvement and recommendations concerning the Engineering, Manufacturing and Technology study programme group study programmes:

1) From the perspective of research-led teaching it raises concerns that less than 50% of teaching staff members on the study programmes have doctoral degrees, regardless of the University's objective of reaching 100% (professors, assistant professors, lecturers) by 2020. The University Development Plan sets as an objective that by 2020 there would not be any teaching staff members without a doctoral degree, however teaching assistant and teacher positions would still exist without the PhD requirement, their main task being teaching. This two-tier system will perpetuate a culture where the study programme group students are 'knowledge takers' rather than 'knowledge seekers' and is a big disappointment. The negative impact on teaching and learning for the graduate programmes is self-evident. Even more worrying, however, is the situation in the first cycle of higher education, where the transition of students' learning culture

from upper secondary school to university ('knowledge takers' to 'knowledge seekers') is heavily influenced by the quality of research-led teaching. The situation in the B.Sc. Engineering is particularly acute with only 39% of the staff qualified to doctoral level. The objective that all academic staff members held PhDs by 2020 seems unrealistic in this stage. Until the proportion of suitably qualified staff reaches 100%, it is recommended that the University seek collaboration with other universities, where necessary. The priority for this collaboration should be addressed at B.Sc. level, where the previous (2015) Assessment Team noted, that "high achieving students consider the programme(s) to be not challenging enough." There remains a need to change the learning culture by inspiring and challenging the students more through research-led teaching.

2) The significant number of interrupted studies is widely recognised as an unacceptable waste of national resources. The problem plagues all programmes and higher education institutions to some extent. A cultural change is required nationally. The underlying factors that encourage high dropout rates must be tackled at a national level, in addition to local efforts to mitigate the impact on each programme. Looking at the application, admission and graduation numbers, the problem in the study programme group under assessment is clearly evident. Whereas the minimum international student retention rate from admission to graduation is approximately 75%, the retention rate at Estonian University of Life Sciences in the study programme group programmes were of the order of 40% for Prof.HE, 47% for B.Sc. and 68% for M.Sc. Clearly this is a problem that needs to be tackled higher up than at the level of heads of study programmes. It cannot be ignored, in that the high drop-out rate creates an environment that detracts from the staff and students' teaching and learning experience in this study programme group.
   In relation to the above mentioned, the committee recommends the following:
   - The state needs to consider more targeted use of the current investment in direct student support. Consideration should be given to both increasing the level of payment to worthy individual students and raising the value that society places on higher-level educational opportunities. The latter might include a financial model that includes a mix of fees, for those who can afford them, and grants, to supplement the finances of those who cannot afford full fees.
   - The universities and institutes of higher education must provide a more challenging teaching and learning experience that inspires retention of students through pride in achieving knowledge and skills of recognised extra value to employers and society.
   - The employers must recognise the long-term value for them of a highly educated workforce and not be complicit in encouraging students into employment before they have completed their studies.
   - Undergraduate students must be encouraged to place a greater value on higher education such that interrupting their studies would be a last resort, rather than the norm (for over half of the undergraduate students in this study programme group at Estonian University of Life Sciences).
3) The level of recognised learning obtained from universities outside of Estonia is extremely low. The number of ECTS credits from foreign universities transferred in the curricula in the study programme group under assessment was 413 ECTS credits in the period 2013-2018. This represents 6.6 equivalent student years in a period when approximately 1200 students were admitted to the study group programmes, joining those already enrolled in the programmes in 2013. The trend is in the wrong direction, falling from a high of 249 ECTS in 2015/2016 to 12 ECTS in 2016/2017 and just 3 ECTS in 2017/2018.
4) Estonian University of Life Sciences does not appear at all in the QS World University Rankings by university nor in the subject rankings for engineering and technology. Although presence at such ranking tables is by no means mandatory, they apply broadly recognized criteria (i.e. academic reputation, employer reputation, research citations per paper, H-index,) that the University is recommended to take into account to a much greater extent in its activities. In the

increasingly competitive international environment, the University needs to make substantial progress if the Engineering, Manufacturing and Technology study programme group is to meet international standards. Providing a teaching and learning infrastructure that encourages students to achieve their full potential will require a more challenging teaching and learning environment for both staff and students. The assessment committee concluded that although the University has set clear development goals, progress in this particular study programme group has been rather slow.

5) The assessment committee mentions limited educational aspirations and low level of ambition by undergraduate students. The portrayal by the students of the undergraduate programmes, both in respect of the academic challenge and in respect of their personal career ambitions on graduation, fell short of that which would nationally and internationally be expected in first cycle engineering programmes.
6) The programme learning outcomes for the undergraduate programmes are dominated by the lower order of learning domains ("has an overview ....."; "can explain....."; "able to organise....."; "can recognise....."; "knows....." and "understands ...." etc.). These learning outcomes do not fully address the learning outcomes set out in national legislation (Standard of Higher Education, Annex 1) in respect of formulating problems relating to the field of study and to analyse and evaluate different solutions; showing initiative in initiating projects; critical thinking; and creativity. Therefore a thorough analysis of the curricula needs to be conducted in order to bring the learning outcomes into line with the requirements in the Standard of Higher Education.
7) The way the study programmes are structured diverges to a notable extent. For example, 'General' modules in the Prof.HE programmes are 24% of total load in one case but almost half of this value in the other, at 13%. 'Speciality' modules in the B.Sc. programmes are 55% of total load in one case but only half of this value in the other, at 28%. Additionally, there is great variability in the value of individual course credits. Similarly-titled courses have credit values differing by a factor of 3. For example MS.0030, 'General course in Enterprise Management' has 2 ECTS, while TE.0147, 'General course in Microprocessors' has 6 ECTS. This indicates the lack of a University norm for the workload associated with a typical module. This might limit flexibility in the delivery and updating of the programme. A more student-centred approach would divide each programme into building blocks of courses that are more equal in workload. This would assist each student's time management in the independent learning part of each course. It would also remove a barrier to student mobility. The previous (2015) Assessment Committee also observed the lack of coordination between programmes and noted that "the structure seems to fit faculty demands more than students'". Uniform norms should be established throughout the University in terms of the volumes of both modules and individual courses.
8) Discussions with undergraduate students revealed interest in practice but there was no corresponding demonstration of a deep appreciation of the importance of strong theoretical understanding. This is more of a concern in the B.Sc. Engineering programme, which seems to be continuing to have difficulty finding the correct balance between theoretical and practical studies. It is recommended that, as part of the possible redesign of courses closer integration of theory and practice within a single course would be set as one of the objectives. Theory and practice should not be divorced into separate courses. This should be reflected in both the mode of delivery of the course and student assessment tasks. The greater use of problem-based learning to emphasise the significance of underlying theory should be exploited where possible to emphasize the importance of theory.
9) The EMÜ Development Plan 2016-2025 sets out a clear roadmap for the University to create a study environment in which high quality teaching is supported by a culture of active and impactful research. The targets set out in the Plan are aggregated at University level, for example a target of at least one publication per academic staff member per year (mean number at the University). At present the figure in this study programme group is 0,7. Moreover, the

distribution of research publication output is very uneven across categories of staff. In meetings with staff some concern was expressed that high teaching loads allocated to some staff members prevented them from engaging in research. To prevent an unhelpful division arising, it is recommended that each Institute should agree a collegiate staff workload model that meets its teaching needs while distributing teaching, research and administration in a transparent manner. The University should support individual staff members through a structured human resources development framework. Such a framework should include annual appraisals of staff to identify their teaching and research developmental support needs, linked to the University targets set out in the University Development Plan targets. Given the difficulty of recruiting international staff and the relatively low number of staff delivering the programmes who are qualified to Ph.D. level, mentorship of 'home grown' talent at early stages in their careers should be a priority.

10) In addition to the representatives of the Student Council who sit on the Council of the University and curriculum development committees, it is recommended that targeted opportunities be explored for greater inclusion of industry experienced graduate students on relevant boards and committees.
11) In order to promote internationalisation, the committee recommends that at least eighteen 5 ECTS graduate level blocs in English be developed.
12) The self-analysis report by the University includes action plans for each study programme. However these do not always contain the areas of improvement mentioned in the Self-Analysis report. Furthermore, the action plans do not always contain specific deadlines (i.e. 'continuing activity') nor expected results (i.e. 'enhanced quality of the study programme'). The areas of improvement mentioned in the self-analysis report as well as the report by the assessment committee should be reviewed and action plans that are specific, measurable and include concrete deadlines should be devised.

WOOD PROCESSING TECHNOLOGY (PROFESSIONAL HIGHER EDUCATION)

Strengths

1) Highly motivated students.

Areas of improvement and recommendations

1) The students' understanding of materials science fundamentals is inadequate. The level of fundamental science courses taught at the University should be higher and present students with sufficient challenges to ensure that the knowledge and skills of students live up to required standards.
2) According to students the content of courses is often not related to their field of studies, especially during the first academic year, furthermore, the content of some of the courses has already been covered in secondary school.
3) Theoretical and practical studies are not integrated as several necessary theoretical elements are missing from the curriculum.
4) The workload of students is not high enough for more capable students to be able to realize their potential. Teaching staff should demand more from students during courses. The relationship between learning outcomes and student workload of contact hours and hours of

independent learning needs to be reviewed to ensure that average students (not the weakest) are assigned learning of 25 to 30 hours of work per one credit (ECTS). It needs to be emphasized that the hours per credit are the minimum hours, especially when it comes to independent work.

5) Interviews with students revealed that they do not always receive sufficient feedback from teachers regarding their submitted work. The timing and thoroughness of teacher feedback should be reviewed. If necessary, guidelines for teaching staff on this matter should be updated.
6) Attention should be given to developing teaching skills in theoretical fundamentals so that teachers of practical subjects could integrate theoretical and practical studies to a sufficient degree.
7) Students' basic research skills are quite modest at the time of admission, making integration between theoretical and practical studies complicated. Measures should be taken to improve students' basic research skills in early stages of their studies.

FOOD TECHNOLOGY (BACHELOR AND MASTER'S STUDIES)

Strengths

1) There is on-going cooperation with representatives from the food processing industry; their recommendations and needs are acted upon.
2) Changes have been introduced in the study programmes in response to employer and to student feedback, e.g. decreasing the emphasis on milk and meat, increasing the focus on plant-based technology.
3) The academic staff members meet weekly and curricular issues are discussed at these meetings. Feedback is given to peers on their outcomes and staff members are open to development.
4) Stage I of the construction of Food Science and Food Technology Laboratory Complex has been completed, including ensuring accessibility for persons with special needs.
5) Various teaching methods are used, including problem-based learning, case studies (on graduate level) and group work, supported by e-learning possibilities.
6) The competition for admission to the study programmes is strong. Satisfaction with skills of graduates is generally high and this is reflected in high employment figures among graduates.

Areas of improvement and recommendations

1) Student feedback on perceived shortcomings in practical studies needs taking a closer look at and tackling. Special attention should be given to the recently opened bakery and confectionery technology speciality.
2) The Master's programme shall need to undergo a mapping exercise benchmarking learning outcomes of Master's level courses against learning outcomes described in Annex 1 of the Standard of Higher Education in order to ensure that graduates have achieved learning outcomes corresponding to a Master's degree.
3) The University Development Plan should be implemented, one of the objectives therein being the elimination of existing shortcomings concerning laboratories.
4) Cooperation with industry should be reinforced (i.e. with BioCC OÜ located in Tartu), in order to jointly apply for research grants. A strategic plan should be devised in order for companies to be able to assist in applying for research and development grants with an objective of ensuring the availability of state of the art equipment for conducting studies.

5) Theory and practice are not integrated to a sufficient degree, which is why students sometimes fail to understand the importance of some of the modules taught in the early stages of studies.
6) Teaching methods are not modern across all courses and, not surprisingly, more traditional delivery methods ('chalk and talk') are increasingly failing to engage all learners. Case-based learning should be extended in order to enable the students to 'connect the dots' between different courses rather than considering each course in isolation. The opinion voiced by students that there is a lack of active teaching methods and little interaction with students in certain courses should be addressed by a more consistent use of new technologies (including digital technologies) and following of current best practice in teaching and learning by all lecturers.
7) The proportion of academic staff with doctoral degrees and on-going research projects is low and needs to grow. There are difficulties with academic staff recruitment due to the unattractiveness of salaries offered. The problem is particularly acute for the MSc programme. The bar on research needs to be raised in order to ensure the sustainability of Master's studies.
8) Research activity is low by international standards. Staff need to be motivated more to apply for research funding. Staff should be supported by the University in developing their skills in the procurement and management of funded research projects.
9) Employers pointed out that the managerial skills of graduates need to be improved to be competitive. They encourage teaching more soft skills, such as business, project planning and management.
10) The needs of individual staff in respect of professional development through courses in Teaching and Learning should be identified and supported.
11) Build research capacity by ensuring that a PhD is a pre-requisite for all future academic appointments. Support existing staff in undertaking PhDs and availing of opportunities for recruitment of PhD students.
12) The Self-Analysis Report stated that "The distribution of workload between lecturers is uneven. The high teaching load of some members of academic staff may prove to be a hindrance to self-improvement and participation in R&D activities". It would therefore be useful to introduce a workload model to ensure equity in teaching, research and administrative responsibilities.
13) Student drop-out rate is very high.
14) Sufficient resources are available for student mobility, however availing of them is not common. Students have the opportunity to study as ERASMUS + exchange students at various higher education institutions, but in the period 2015-2018 only three students used this opportunity. Strongly promote internationalisation and associated measures to encourage greater uptake of existing funding opportunities for student and staff mobility.
15) Given the demographic situation in Estonia measures should be taken to avoid duplication between Food technology programmes offered at EULS and Tallinn University of Technology by clearly bringing out their distinctions and advantages.

TECHNOTRONICS (PROFESSIONAL HIGHER EDUCATION); ENGINEERING (BACHELOR'S STUDIES)

Strengths

1) The programme currently has excellent resources.
2) Communication between academic staff and students is good.
3) One third of the students on the technotronics programme get a specialty scholarship (160 €/month) in addition to the national needs-based study allowance.

Areas of improvement and recommendations

1) A priority regarding the B.Sc. is the need for a comprehensive mapping exercise to be carried out to evaluate gaps that currently exist in the learning outcomes at course level that collectively fail to deliver the graduate attributes expected from the learning outcomes at programme level and the attributes expected from the learning outcomes prescribed in Annex 1 of Government of Estonia Standard of Higher Education.
2) A new plan should be developed for new investments in equipment for research and education. The plan should harmonize with the overall development plan for the Department (research priorities) and contribute to meeting targets in the University Development Plan.
3) The integration between theory and practice should be reviewed. Programme managers should constantly seek the balance between theory, theoretical understanding and practical skills.
4) The academic staff should intensify visits abroad to universities and industries in order to strengthen their skills and build experience that can be applied in their research and teaching.
5) Admission score thresholds concerning mathematics and physics should be higher. If such a pre-requisite of high scores is not introduced, there is a need for mathematics support during the first year to increase learning.
6) Accepting that mobility is restricted for those students already in employment, consideration could be given to encouraging traineeships in other countries.

ERGONOMICS; ENERGY APPLICATION ENGINEERING; PRODUCTION ENGINEERING (MASTER'S STUDIES)

Strengths

1) Some modules in the MSc programmes are unique even from an international perspective.
2) Transferring between MSC programmes is relatively easy, which is important from the students' perspective.
3) The University has made recent investments into modernising labs.
4) Both students and teaching staff appreciate the online learning environment, given the fact that majority of students are already employed.

Areas of improvement and recommendations

1) International cooperation needs to be strengthened. This would complement and further strengthen the development at EULS and be mirrored in the curriculum logic and course contents.
2) A renewal of literature reading lists would be recommendable, especially for inclusion of more up-to-date literature where it exists to supersede material published more than 20 years ago. Each course is recommended to review the recommended literature to shorten the reading lists and point out the most important materials.
3) A plan for obtaining investment funds should be explored to extend the basic equipment to more advanced machines that would allow students to get the experience of industry production and for staff to be able to cooperate with industry to do research.

4) Vigilance in respect of student safety when working out-of-hours in laboratories should be checked every now and then to ensure that safety protocol is observed.
5) The Studies Information System (ÕIS) feedback system must be revitalized and further developed. A culture of course meetings between students, teachers, and leaders of the educational programmes needs to be developed to manage the results of course evaluations as an element in closing the feedback loop.
6) Intensify the invitation of short time visits of international academic staff to subject groups in order to strengthen the competence and raise awareness of international research and teaching.

11. Point 41 of the document 'Quality Assessment of Study Programme Groups in the First and Second Cycles of Higher Education' stipulates that the Assessment Council shall approve an assessment report within three months after receipt of the report. The Assessment Council shall weigh the strengths and areas for improvement pointed out by an assessment committee and its recommendations, and shall then decide whether to conduct the next quality assessment of that study programme group in seven, five or three years.

12. The Council reflected on the strengths, areas of improvement and recommendations listed under point 9 and concluded that the following non-compliances are present in the study programmes, studies being conducted under the study programmes as well as study-related development activities:

1) Subsection 6 (3) of the Government of the Republic Regulation Standard of Higher Education establishes the requirement that *study programmes and conducting studies shall be consistent with the internal quality standards of the educational institution as well as with national and international quality requirements and agreements*. Point 5.5.3 of the document Quality Assessment of Study Programme Groups in the First and Second Cycles of Higher Education establishes that *students are motivated to learn and their satisfaction with the content, form and methods of their studies is high*. In the Development Plan for 2016-2025 of the Estonian University of Life Sciences a clear action plan is put in place in order to create a learning environment at the University where high quality studies are supported by a culture of active and impactful research. For example the plan had set as an objective at least one publication per member of teaching staff per year. At present the study programme group figure is 0,7. Moreover the publication rates differ to a large extent across different academic positions. Meetings with teaching staff revealed that high teaching loads experienced by some academic staff members do not allow them to engage in research. Basic science courses at the University should be clearly at a higher level, and contain adequate challenges in order to ensure that the knowledge and skills of students meet the required standards. The workload of students is not high enough for more capable students to fully realize their potential. Already the previous (2015) assessment committee had mentioned that capable undergraduate Engineering programme students find the study programme to be not challenging enough. There is on-going need to change the learning and teaching culture by challenging students more through research-led teaching.

2) Subsection 6 (7) 1) of the Standard of Higher Education establishes that *ordinary teaching staff and research staff are available for the studies, who meet the qualification requirements established in legal instruments and whose number is, based on their responsibilities, the volume of conducted studies and research and the number of supervised students, adequate for achieving the objectives and learning outcomes of the study programme*. Less than 50% of

teaching staff members on the study programmes have doctoral degrees, which is a problem from the perspective of research-led studies. The situation has a negative impact on graduate studies, but even in the undergraduate study programmes during the transition from upper secondary school to university the quality of research-led teaching is of significant importance. The situation is particularly acute on the Engineering BSc programme, where only 39% of the teaching staff hold doctoral degrees. The proportion of academic staff with doctoral degrees and on-going research projects is low on the Food Technology study programmes, moreover the level and volume of research conducted by teaching staff is inadequate by international standards.

3) Subsection 6 (3) of the Standard of Higher Education establishes that *the objectives and learning outcomes of a study programme shall be equal and comparable with the learning outcomes of the cycles of higher education level described in Annex 1 to this Regulation, meet the requirements and trends of international legal instruments that regulate the professional field and, if a professional standard exists, take into consideration the acquisition and implementation of the knowledge and skills described therein.* Subsection 6 (4) of the Standard of Higher Education establishes that *the objectives and learning outcomes of a study programme shall be formulated in a way that they provide a basis for evaluation of the knowledge and skills of graduates of that study programme*. The programme learning outcomes for the professional higher education and Bachelor's programmes are dominated by the lower order of learning domains. These learning outcomes fail to cover the full range of learning outcomes stipulated in national legislation (Annex 1 of the Standard of Higher Education), which concern the analysis of field of study related problems and finding solutions to them; showing initiative in initiating projects; critical thinking and creativity. The understanding of students enrolled in the Wood Processing Technology programme of materials science fundamentals is inadequate. The Food Technology Master's programme needs to undergo a mapping exercise benchmarking learning outcomes of Master's level courses against learning outcomes described in Annex 1 of the Standard of Higher Education in order to ensure that graduates have achieved learning outcomes corresponding to a Master's degree.

4) Subsection 6 (5) of the Standard of Higher Education establishes that *the title and structure of a study programme shall be consistent and the study methods used and conducting of studies, including the load of independent work and work practice, shall support achievement of the objectives of the study programme.* Point 5.1.2 of the document Quality Assessment of Study Programme Groups in the First and Second Cycles of Higher Education establishes that *the structure and content of modules and courses in a study programme support achievement of the objectives and designed learning outcomes of the study programme*. The way the study programmes are structured diverges to a notable extent. Similarly titled courses have credit values differing by a factor of 3. There is no uniform norm throughout the University concerning module workloads. This might limit flexibility in the delivery and updating of the programme. The relationship between learning outcomes and student workload of contact hours and hours of independent learning needs to be reviewed to ensure that average students (not the weakest) are assigned learning of 25 to 30 hours of work per one credit (ECTS). The previous (2015) Assessment Committee also observed the lack of coordination between programmes. Active methods and new (incl. digital) technologies are under-used in teaching. Teaching methods are not modern across all courses.

5) Point 5.3.4 of the document Quality Assessment of Study Programme Groups in the First and Second Cycles of Higher Education establishes that *Practical and theoretical studies are interconnected.* Estonian University of Life Sciences students fail to comprehend the importance

of strong theoretical background. This is of grave concern on Engineering programme, which continues to seek a balance between theory and practice. On Food Technology study programme theory and practice are not integrated to a sufficient degree, which is why students sometimes fail to understand the importance of some of the modules taught in the early stages of studies. The practical and theoretical studies on the Wood Processing Technology study programme fail to form a coherent whole because several necessary theoretical elements are missing from the curriculum. Theory and practice should not be separated into isolated courses. It should be reflected in how courses are taught as well as how students are graded. More problem based learning should be used to emphasize the importance of theory.

6) Points 5.3.6 and 6.5.4 of the document Quality Assessment of Study Programme Groups in the First and Second Cycles of Higher Education establish that *the process of teaching and learning supports learning mobility. As part of their studies, students attend other Estonian and/or foreign higher education institutions as visiting or international students.* The level of recognised learning obtained from universities outside of Estonia is extremely low. The number of ECTS credits from foreign universities transferred in the curricula in the study group was 413 ECTS credits in the period 2013-2018. This represents 6.6 equivalent student years in a period when approximately 1200 students were admitted to the study group programmes, joining those already enrolled in the programmes in 2013. The trend is in the wrong direction, falling from a high of 249 ECTS in 2015/2016 to 12 ECTS in 2016/2017 and just 3 ECTS in 2017/2018.

7) Point 5.5.2 of the document Quality Assessment of Study Programme Groups in the First and Second Cycles of Higher Education establishes that *the dropout rate is low; the proportion of students graduating within the standard period of study is large*. Looking at the application, admission and graduation numbers, the problem in the study programme group under assessment is clearly evident. Whereas the minimum international student retention rate from admission to graduation is approximately 75%, the retention rate at Estonian University of Life Sciences in the study programme group programmes were 40% for Prof.HE, 47% for B.Sc. and 68% for M.Sc. Clearly this is a problem that cannot be ignored as the high drop-out rate has a negative impact on the staff and students' teaching and learning experience in this study programme group.

13. On the basis of the above mentioned, the Council

DECIDED

to approve the assessment report and to conduct the next quality assessment of the Engineering, Manufacturing and Technology study programme group at Estonian University of Life Sciences in three years.

The decision was adopted by 10 votes in favour. Against 0.

14. The decision remains in force until 8.04.2022. EKKA shall coordinate the time frame of the next quality assessment of the study programme group with Estonian University of Life Sciences by 8.04.2021.

15. A person who finds that his or her rights are violated or his or her freedoms are restricted by this decision may file a challenge with the EKKA Quality Assessment Council within 30 days after the person filing the challenge became or should have become aware of the contested finding. The

Assessment Council shall forward the challenge to the Appeals Committee who provides the Assessment Council with an unbiased opinion regarding the validity of the challenge within 5 days after receiving the challenge. The Assessment Council shall adjudicate the challenge within 10 days after the challenge is delivered to the Council, taking into account the justified opinion of the Appeals Committee. If the challenge needs to be further examined, the Assessment Council may extend a term for review of the challenge by up to 30 days. A decision by EKKA Quality Assessment Council may be challenged within 30 days after its delivery, filing an action with the Tallinn courthouse of the Tallinn Administrative Court pursuant to the procedure provided for in the Code of Administrative Court Procedure.

Eve Eisenschmidt
Chair of the Council

Hillar Bauman
Secretary of the Council